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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,678	12/13/2001	Geoffrey B. Rhoads	P0509	9753

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DIGIMARC CORPORATION
19801 SW 72ND AVENUE
SUITE 100
TUALATIN, OR 97062

EXAMINER
NAKHJAVAN, SHERVIN K

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 08/04/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,678	RHOADS ET AL.	
	Examiner	Art Unit	
	Shervin Nakhjavan	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-13,15,16 and 25-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *25-27* is/are allowed.

6)☒ Claim(s) *2-13,15 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 2-5, 7, 10, 13, 15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claim 16, specifically the invention as cited "having watermark information for at least two different video objects in the video signal" *and* "the audio track includes watermark information for at least two different video objects", in combination, is not supported by the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 2-13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Broughton et al. (US 4,807,031).

Regarding claims 2-13 and 15, Broughton teaches, limitation of claim 2, a method of encoding substantially imperceptible auxiliary information into a video signal including at least one video object, the method comprising: steganographically encoding object information about the video object into the video signal (Column 5, Lines 22-27, where video is steganographically is encoded with object information or binary data in the object 14d within the region 14c as discussed in column 6, lines 21-24); and associating the object information with an action, where the action is performed in response to user selection of the video object through a user interface while the video signal is playing (Column 4, Line 59 through Column 5, Line 35, where user selection is performed by user interface device16, selecting a signal in predetermined region of the display inherently, at fixed or portable position and upon the transducer detecting of the previously selected imbedded codes within the object 14c above, performs an associated action corresponding to the embedded code); wherein the video signal is steganographically encoded with at least two identifiers, each identifier corresponding to distinct video objects in frames of the video signal, and each identifier being associated with actions relating to the corresponding video objects (Column 4, Lines 6-14, where more than one interactive device is able to be programmed by embedding different codes for different interactive devices at different frequency ranges as discussed in column 8, lines 45-53);

limitation of claim 3, a method of encoding substantially imperceptible auxiliary information into a video signal including at least one video object, the method comprising: steganographically encoding object information about the video object into the video signal (Column 5, Lines 22-27, where video is steganographically is encoded with object information or binary data in the object 14d within the region 14c as discussed in column 6, lines 21-24); and associating the object information with an action, where the action is performed in response to user selection of the video object through a user interface while the video signal is playing (Column 4, Line 59 through Column 5, Line 35, where user selection is performed by user interface device16, selecting a signal in predetermined region of the display inherently, at fixed or portable position and upon the transducer detecting of the previously selected imbedded codes within the object 14c above, performs an associated action corresponding to the embedded code), wherein the object information is encoded in a watermark signal that covers a portion of the screen area of frames in the video signal where the video object is located (Column 6, Lines 3-15, where area 14d is the watermark signal area that covers portion of the screen area 14b and it is encoded or modulated with information data);

limitation of claim 4, a method of encoding substantially imperceptible auxiliary information into a video signal including at least one video object, the method comprising: steganographically encoding object information about the video object into the video signal (Column 5, Lines 22-27, where video is steganographically is encoded with object information or binary data in the object 14d within the region 14c as

discussed in column 6, lines 21-24); and associating the object information with an action, where the action is performed in response to user selection of the video object through a user interface while the video signal is playing (Column 4, Line 59 through Column 5, Line 35, where user selection is performed by user interface device16, selecting a signal in predetermined region of the display inherently, at fixed or portable position and upon the transducer detecting of the previously selected imbedded codes within the object 14c above, performs an associated action corresponding to the embedded code), wherein the object information for at least two different video objects in the video signal is steganographically encoded in different portions of frames of the video signals where the corresponding video objects are located (Column 7, Lines 50-57, where multiple location of the display area is able to carry multiple encoded objects with their associated encoded data);

limitation of claim 5, a method of encoding substantially imperceptible auxiliary information into a video signal including at least one video object, the method comprising: steganographically encoding object information about the video object into the video signal (Column 5, Lines 22-27, where video is steganographically is encoded with object information or binary data in the object 14d within the region 14c as discussed in column 6, lines 21-24); and associating the object information with an action, where the action is performed in response to user selection of the video object through a user interface while the video signal is playing (Column 4, Line 59 through Column 5, Line 35, where user selection is performed by user interface device16, selecting a signal in predetermined region of the display inherently, at fixed or portable

position and upon the transducer detecting of the previously selected imbedded codes within the object 14c above, performs an associated action corresponding to the embedded code), wherein the object information includes a screen location information indicating where the video object is located in the video signal (Column 2, Lines 7-16, where predetermined portion or location of the frame is inherently disclosing the location of the segment or object);

limitation of claim 6, object information is encoded for at least two different video objects in the video signal, and the object information includes location information indicating where the video objects are located in the video signal (Column 2, Lines 11-16, where there are plurality of unique objects or frame segments and the their locations are known within a frame);

limitation of claim 7, a method of encoding substantially imperceptible auxiliary information into a video signal including at least one video object, the method comprising: steganographically encoding object information about the video object into the video signal (Column 5, Lines 22-27, where video is steganographically is encoded with object information or binary data in the object 14d within the region 14c as discussed in column 6, lines 21-24); and associating the object information with an action, where the action is performed in response to user selection of the video object through a user interface while the video signal is playing (Column 4, Line 59 through Column 5, Line 35, where user selection is performed by user interface device 16, selecting a signal in predetermined region of the display inherently, at fixed or portable position and upon the transducer detecting of the previously selected imbedded codes

within the object 14c above, performs an associated action corresponding to the embedded code), wherein the object information is encoded in a pre-recorded video object, which forms part of the video signal (Column 16, Lines 43-51 where tagged and suitable video objects or sub-fields are selected and removed for encoding and later mixing the objects with the video signal to provide a composite video signal);

limitation of claim 8, the pre-recorded video object is composited with video frames to form the video signal (Column 16, Lines 56-61, where the prerecorded or removed video objects or a sub-fields, they are mixed back to the primary video signal to make a composite video signal);

limitation of claim 9, the pre-recorded video object is composited with at least one other video object to form the video signal, where the video objects are each steganographically encoded with object specific information (Column 4, Lines 6-14, where more than one interactive device is able to be programmed by embedding different codes for different interactive devices at different frequency ranges as discussed in column 8, lines 45-53);

limitation of claim 10, a method of encoding substantially imperceptible auxiliary information into a video signal including at least one video object, the method comprising: steganographically encoding object information about the video object into the video signal (Column 5, Lines 22-27, where video is steganographically is encoded with object information or binary data in the object 14d within the region 14c as discussed in column 6, lines 21-24); and associating the object information with an action, where the action is performed in response to user selection of the video object

through a user interface while the video signal is playing (Column 4, Line 59 through Column 5, Line 35, where user selection is performed by user interface device16, selecting a signal in predetermined region of the display inherently, at fixed or portable position and upon the transducer detecting of the previously selected imbedded codes within the object 14c above, performs an associated action corresponding to the embedded code), wherein the video object is encoded with the object information as part of a process of capturing the video signal of physical objects, and the object information pertains to the physical objects captured in the video signal (Column 5, Lines 19-35, where the encoded data is associated with the capturing of the action of the physical object, the car in the screen 14b, in order to relay it's action to car 34);

limitation of claim 11, the object information is encoded as part of a process of capturing the video signal during a live broadcast or transmission of the video signal (Column 4, Lines 40-46);

limitation of claim 12, object information is encoded for at least two different video objects depicted in frames of the video signal (Column 4, Lines 6-14, where more than one interactive device is able to be programmed by embedding different codes for different interactive devices at different frequency ranges as discussed in column 8, lines 45-53);

limitation of claim 13, a method of encoding substantially imperceptible auxiliary information into a video signal including at least one video object, the method comprising: steganographically encoding object information about the video object into the video signal (Column 5, Lines 22-27, where video is steganographically is encoded

with object information or binary data in the object 14d within the region 14c as discussed in column 6, lines 21-24); and associating the object information with an action, where the action is performed in response to user selection of the video object through a user interface while the video signal is playing (Column 4, Line 59 through Column 5, Line 35, where user selection is performed by user interface device16 at fixed or portable position and upon the transducer detecting of the previously selected imbedded codes within the object 14c above, performs an associated action corresponding to the embedded code), wherein object information is encoded for at least two different video objects such that the object information is synchronized with corresponding video objects depicted in the video signal during playback (Column 16, Lines 56-61, where upon defining a window or video object or plurality of windows or video objects the program data and control data or object information data are mixed by modulating the luminance of the windows synchronously as they arrive);

limitation of claim 15, a method for using a watermark encoded into a video signal or in an audio track accompanying the video signal, where the watermark comprises information regarding a video object in the video signal, the method comprising: decoding the watermark information (Column 5, Lines 28-31, where the watermark or control data is decoded or reconstructed); receiving a user selection of the video object (Column 4, Lines 59-68, where user selects a region within the screen 14c for a given frequency and location to be monitored); and executing an action associated with the video object information (Column 5, Lines 30-33, where a predetermined action is performed upon detection of the video control data or object information data); wherein

the video signal includes watermark information for at least two different video objects in the video signal, and the watermark information associates the video objects with object actions or information (Column 4, Lines 6-14, where more than one interactive device is able to be programmed by embedding codes or watermarks for different interactive devices at different frequency ranges as discussed in column 8, lines 45-53).

Allowable Subject Matter

6. The following is an examiner's statement of reasons for allowance: claims 25-27 are allowed because, the prior art or the prior art of record specifically Uicki (US 4,028,733) does not teach *steganographically* encoding of the audio track of claim 25 combined with other features and elements of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shervin Nakhjavan whose telephone number is (703) 306-5916. The examiner can normally be reached on Monday through Friday from 8:00 am to 5:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached at (703) 305-4706.

Any response to this action should be mailed to:
Assistant Commissioner for Patents
Washington, DC 20231

Or faxed to:
(703) 872-9314 for ***formal*** communications, please mark **"EXPEDITED PROCEDURE"**
or:
for ***informal*** or ***draft*** communications; please label "**PROPOSED**" or "**DRAFT**".

Hand delivered responses should be brought to Crystal Park 2, 2121 Crystal drive, Arlington, VA, sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Tech center 2700 customer service office **(703) 306-0377**.

Shervin Nakhjavan S.N
Patent Examiner
Group Art Unit 2621
July 31, 2003.

ANDREW W. JOHNS
PRIMARY EXAMINER